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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,261

03/25/2005

Daihachi Shojima

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EXAMINER

PICKARD, ALISON K

ART UNIT

PAPER NUMBER

3676

MAIL DATE

DELIVERY MODE

07/15/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,261	Applicant(s) SHOJIMA, DAIHACHI	
	Examiner Alison K. Pickard	Art Unit 3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' APA (Fig. 7, and spec. pages 1-3) in view of Rice in view of Grime (3,687,465).

In figure 7, for example, Applicants disclose a known apparatus for manufacturing a semiconductor device having a packing groove with a seal 51. The o-ring 51 is made from plasma resistant FKM (or FFKM). And, Applicants disclose that PTFE is a known material having plasma resistance. However, Applicants do not disclose the plasma seal as require by the claims. Rice teaches a plasma sealing device comprising a packing groove and seal. Rice teaches the use of a protective PTFE collar 64 between the irradiation side and the o-ring packing (either 68 or 76) to protect the o-ring from corrosion. Rice also teaches that the PTFE collar is free from fillers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a protective collar with the o-ring of the APA to shield the o-ring from corrosion and extend the life of the seal.

Rice teaches that the collar 64 can have different configurations as long as it provides a fluid-tight seal (see col. 6, lines 21-28). Grime teaches a fluid tight sealing assembly comprising an o-ring 6 and protective collar 17. As seen in Figure 2, the collar has an arch cross-sectional shape with a concave surface engaging the o-ring and a convex surface engaging a side wall of a

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groove. The collar has a height smaller than the diameter/height of the packing and provides an effective fluid tight seal between the surfaces. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shape of the collar of Rice with the shape taught by Grime as such is an equivalent shape and would yield expected results.

Also, Applicants' Figure 7 appears to show the groove having a wall at a right angle to the end surface, but Applicants do not appear to specifically state this. Regardless, it is not considered inventive to discover the optimum or workable ranges by routine experimentation. See *In re Aller*, 105 USPQ 233,235 (CCPA 1955). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the sidewall perpendicular to the end surface of the groove.

Response to Arguments

3. Applicant's arguments with respect to claims 6 and 14 have been considered but are moot in view of the new ground(s) of rejection.

As stated above, Rice provides the suggestion to modify the shape of the protective PTFE collar in such sealing devices. And, both Grime and Jelinek '016 show that protective collars located on a lower-pressure side of a seal can have the claimed shape and height and provide a fluid tight seal.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062.

The examiner can normally be reached on M-F (9-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Will can be reached on 571-272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alison K. Pickard/
Primary Examiner, Art Unit 3676

AP